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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/622,850

07/18/2003

Willard Charles Raymond

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4768

25281

7590

12/07/2006

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EXAMINER

KEENAN, JAMES W

ART UNIT

PAPER NUMBER

3652

DATE MAILED: 12/07/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/622,850

Applicant(s)

RAYMOND, WILLARD CHARLES

Examiner

James Keenan

Art Unit

3652

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 20 October 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-4 and 6-22 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-4 and 6-22 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                     | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

1. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the shaft extendably connected to a support arm (claim 21) and the support plate pivotally mounted to a support arm (claim 22) must be shown or the feature(s) canceled from the claim(s). **No new matter should be entered.**

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

Art Unit: 3652

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-4, 6-10, and 14-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fuke et al in view of Nakamura and De Anda, all previously of record).

Fuke et al show a wafer ring feeding apparatus (a wafer ring being considered structurally equivalent to a "film frame", in that it comprises a wafer sheet or film 2 surrounded by a ring or frame 1), comprising cassette 10 loaded on an elevator 13 (considered to be a "load port", absent any further limitations), robot end effector 58 for grabbing a selected film frame from the cassette or returning a film frame to the cassette, and a vertically adjustable frame support 80 including opposing support arms 85A, 85B each containing plural horizontally adjustable contact elements 86a-A, 86b-B which help guide the film frames in or out of the cassette.

Fuke et al does not show moving the frame support linearly vertically relative to the cassette in the manner set forth. Rather, the cassette moves on an elevator relative to the frame support.

Nakamura shows a similar system for conveying flat circular articles in and out of cassettes, wherein one embodiment (figures 1-3) shows the cassette 8 mounted on a vertically movable support 7 relative to a vertically stationary robot end effector 2, but in figures 4-5, shows another embodiment in which the cassette is stationary while the robot is vertically movable.

It would have been obvious for one of ordinary skill in the art at the time of the invention to have modified Fuke et al such that the frame support (and robot end effector) was vertically movable relative to a stationary cassette, rather than vice-versa, as Nakamura explicitly discloses this as an alternative equivalent means of performing the same function in the same environment, the use of either of which would work equally well in performing the claimed method.

Fuke et al also does not show the contact elements to be spaced from one another.

De Anda shows an apparatus for feeding flat articles from a stack, including opposing support arms 58 each having plural spaced apart contact elements comprising rollers 130, 132.

It would have been obvious for one of ordinary skill in the art at the time of the invention to have also modified Fuke et al by utilizing spaced apart contact elements, such as the rollers of De Anda, as this would reduce friction on the articles as they are moved in or out of the cassette. Note that De Anda, like Fuke et al, shows the support arms to be horizontally movable relative to the articles for aligning purposes.

Although applicant has further amended independent claims 1 and 10 to require that the contact elements are movable relative to the support arm in an effort to define the claims over the combination of references, this in fact does nothing to further distinguish the claims because if the apparatus of Fuke et al was modified as noted above such that the rollers of De Anda were substituted for the contact elements of Fuke et al, then the contact elements would be movable relative to the support arm,

inasmuch as rollers, by definition, roll (i.e., move). The claims do not require the contact elements to be movable in any particular manner.

Re claim 2, Fuke as modified does not show the frame support to be Y-shaped. Nevertheless, it would have been obvious for one of ordinary skill in the art at the time of the invention to have modified the apparatus and method of Fuke et al to include this feature, as this would be a simple design expediency which would neither require undue experimentation nor produce unexpected results, and since applicant has not disclosed the feature as solving any particular problem, it appears the invention would work equally well either way.

Re claims 3-4 and 6-7, Fuke et al show that the frame support includes base arm 81 and actuators 87, 88 (also note col. 8, lines 6-15) for horizontally moving the contact elements relative to the base arm.

Re claim 8, the contact elements of De Anda are rollers and would obviously be included when used to modify Fuke et al, as noted above.

Re claim 9, Fuke as modified does not show the rollers to be spring-loaded. Nevertheless, it would have been obvious for one of ordinary skill in the art at the time of the invention to have further modified the apparatus and method of Fuke et al to include this feature, as this would simply be a design expediency which would neither require undue experimentation nor produce unexpected results, since applicant has not disclosed that it solves any particular problem.

Re claims 10, 14-17, and 19-20, the modified apparatus of Fuke et al would obviously be able to perform the recited method steps without any further modifications.

Art Unit: 3652

Re claim 18, the contact elements of Fuke et al are considered to be "vertically compliant", as broadly claimed, by virtue of their connection to air cylinder 92.

Re claims 21-22, to have further modified the apparatus of Fuke et al by connecting the contact elements to the support arms with an extendable shaft or pivotal support plate would have been a mere design expediency, particularly since the features are neither shown nor described with a sufficient degree of specificity to provide any indication of patentability.

4. Claims 11-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fuke et al in view of Nakamura and De Anda, as applied to claim 10 above, and further in view of Aoki et al (previously of record).

Although Fuke as modified shows the ability to horizontally position the contact elements, this is not done based on the determined diameters of different sized film frames.

Aoki shows that it is well known to horizontally adjust guide rails in response to the determined width of different sizes of lead frames.

It would have been obvious for one of ordinary skill in the art at the time of the invention to have further modified the method of Fuke such that the size (diameter) of film frames in the cassette could be determined and the distance between the contact elements adjusted correspondingly thereto, as taught by Aoki, as this would enable the method to be easily performed on film frames of differing sizes and thus provide increased usefulness and flexibility of the system.

5. Applicant's arguments filed 10/20/06 have been fully considered but they are not persuasive.

Applicant's arguments concerning the newly recited limitation that the contact elements are movable relative to the support arm have been addressed above. Applicant further argues that since the contact elements 86 of Fuke et al function to both guide and support a wafer ring, there would be no expectation of success when modifying Fuke et al with the rollers of De Anda because the rollers would only support a wafer ring, rather than both guiding and supporting. This is not persuasive. The contact elements of Fuke et al are divided into distinct guiding and supporting portions. The guiding portion 86A, 86B of the contact elements is used when the wafer ring is stationary, not when it is being conveyed (see col. 5, line 40 to col. 6, line 9). Thus, there is no reason why the rollers (analogous to the support portion 86a, 86b) of Fuke et al when modified as described above would need to provide a guiding function; that could continue to be done by the guiding portion of the contact elements, or a reasonable modification thereof, in conjunction with the rollers. It is important to remember that applicant's own disclosure teaches that the rollers could be substituted with a planar surface such as sliders (page 6, line 30 to page 7, line 2), which is, of course, merely the reverse of the substitution set forth in the rejection. It is also noted that a low friction planar surface is essentially functionally equivalent to a series of rollers spaced so close together that the distance therebetween becomes insignificant.



6. Applicant's amendment necessitated any new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

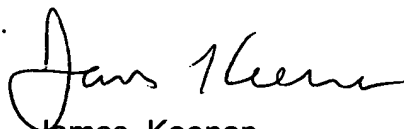
A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to James Keenan whose telephone number is 571-272-6925. The examiner can normally be reached on (schedule varies).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Eileen Lillis can be reached on 571-272-6928. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 3652

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



James Keenan  
Primary Examiner  
Art Unit 3652

jwk  
12/5/06